

Energy Savings Performance Contracting

Energy Efficiency for Kentucky's Schools

High Performance Schools Workshop

Presented by:

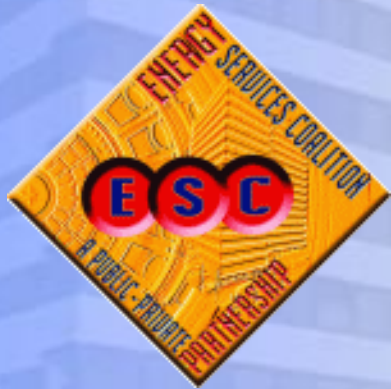
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***Kentucky Department for Energy
Development & Independence***

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Low hanging fruit?
Or fruit rotting on the ground?



Energy Savings Performance Contracting (ESPC) Defined

“The use of guaranteed savings from the maintenance and operations budget (utilities) as capital to make needed upgrades and modernizations to your building environmental systems, financed over a specified period of time.”



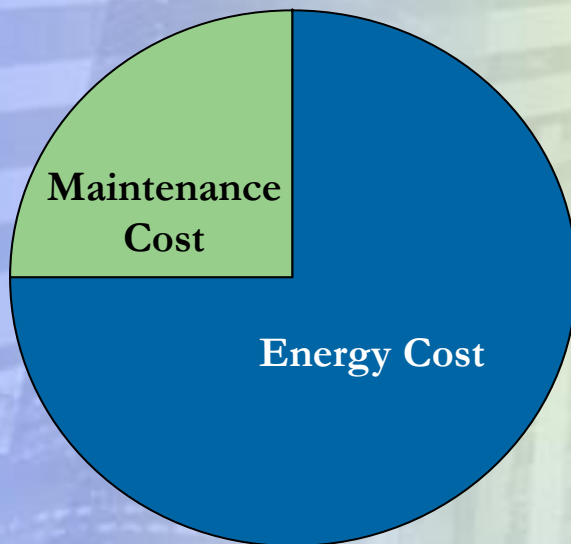
-United States Department of Energy



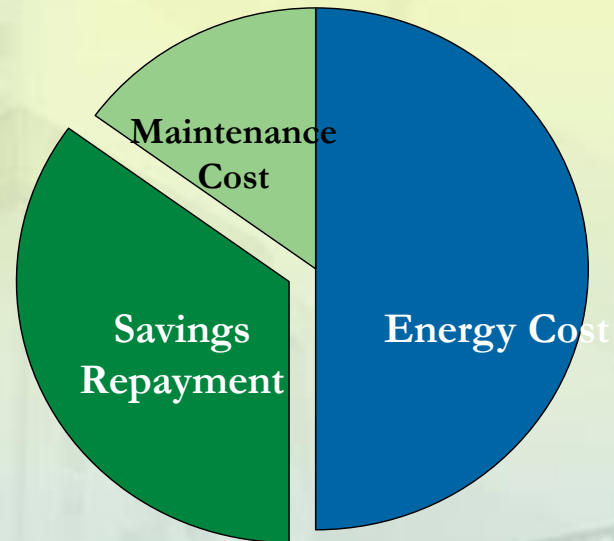
How Does Performance Contracting Work?

The ESCO guarantees that cost avoidance (utility & operations expenses) will meet or exceed annual payments to cover all project costs over an agreed debt service period...

...or the ESCO pays the difference.



Pre Project

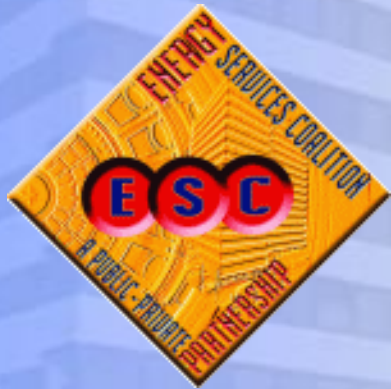


Post Project



Guarantee Basics

- **Written guarantee that energy and operational savings will meet or exceed the costs of the ECMs within the term of the contract.**
- **Annual Reconciliation per the agreed upon Measurement and Verification Plan (M&V)**
- **If the guaranteed savings are not met; the ESCO pays the shortfall.**
- **Not a “shared savings” approach - you retain the benefits of any excess savings.**



Is my school district, city, or county a candidate for ESPC?

Do I Have:

- **Deferred Maintenance Issues & Aging Equipment**
- **Too Many Demands on Maintenance Staff**
- **Lack of Funds for Facility Improvements**
- **Budget Constraints and High Utility Costs**
- **No Recent Upgrades**
- **Little Experience with Energy Efficiency**



Turnkey Approach

- **Identify and Evaluate Cost Avoidance Opportunities**
- **Develop Engineering Designs and Specifications with the assistance of the consulting engineer**
- **Facilitate Financing**
- **Manage the Project from Design to Installation to Monitoring**
- **Provide Training**
- **Guarantee Savings Will Cover All Project Costs**



Typical Energy Conservation Measures

- **Lighting Efficiency**
- **Occupancy Sensors**
- **Energy Management Controls**
- **Variable Speed Pumps**
- **Variable Speed Fans**
- **High Efficiency HVAC**
- **Chillers**
- **Ground/Water Source Heat Pumps**
- **Boiler Control Strategies**
- **Steam to Hot Water**
- **Domestic Hot Water**
- **Windows and Window Film**
- **Roofs and Green Roofs**
- **Insulation**
- **Water Fixture Efficiency**
- **Renewable Energy Solutions**

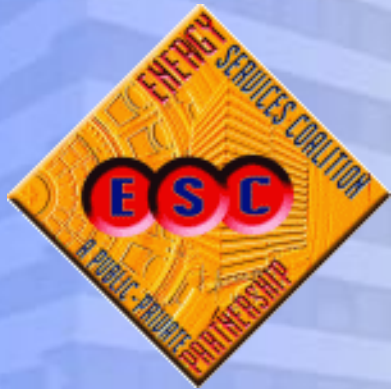


Sample Cash Flow: Self-Funding Program

- **Jessamine County Fiscal Court, Nicholasville, KY**
 - Six county buildings
 - Pays \$156,425 in annual utility costs
 - Has \$200,000 of one-time capital to supplement the annual energy savings.
 - Performed an \$800,000 performance contract with a 15 year guarantee term.



Utilities	Total Cost
Electric	\$80,730
Natural Gas	\$51,817
Water	\$10,069
Sewer	\$13,809
Total	\$156,425



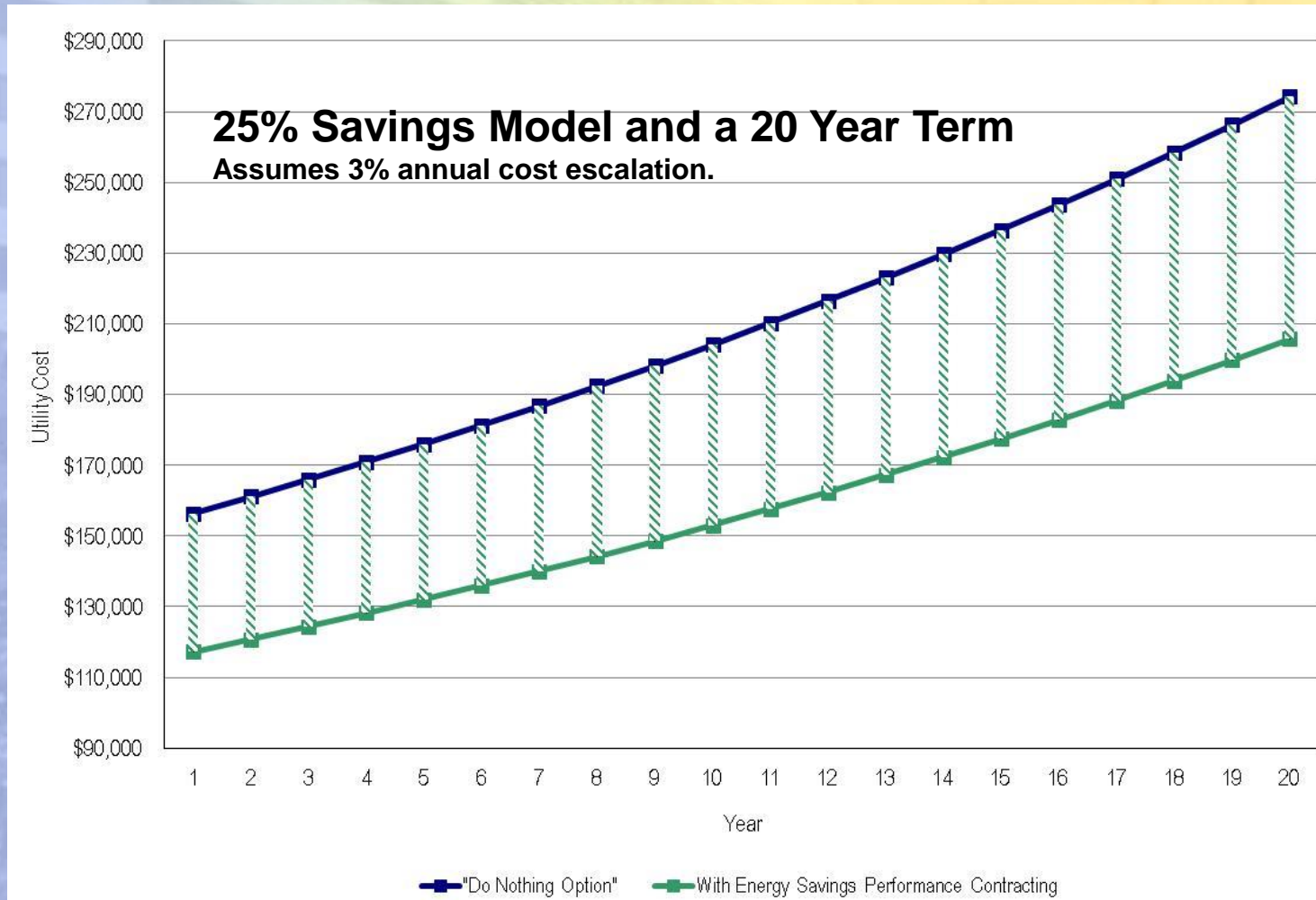
Savings and Program Potential

Potential Self-Funding Savings & Program Potential			
ECM Savings %:	20%	25%	30%
1st Year Energy Cost Savings:	\$31,285	\$39,106	\$46,928
1st Year Estimated O&M Savings:	\$3,129	\$3,911	\$4,693
1st Year Total Annual Cost Savings:	\$34,414	\$43,017	\$51,621
Measurement & Verification Fee:	\$3,600	\$3,600	\$3,600
Financed Interest Rate:	3.00%	3.00%	3.00%
15 Year Program Potential*	\$460,895	\$576,120	\$691,345
20 Year Program Potential*	\$598,500	\$748,120	\$897,745

* Does not include one-time capital of \$200,000.



Savings & Program Potential



School total energy costs equal \$197 million, or \$291/student (2012)
Increased 110% since year 2000



Financing Options

- **KRS permits financing of energy conservation measures through a lease-purchase agreement, bonds, or whatever provides the most economical value**
- **Finance agreement is typically executed between the school district and a third party lender**
- **ESCO can assist with facilitating financing for the school district**



What Are My Obligations?

- **Conduct a competitive procurement**
- **Work cooperatively with the selected ESCO by providing access to facilities, available information, blueprints, surveys, etc.**
- **Operate, service, and maintain the newly installed equipment**



This is nothing new

ESPC projects to date...

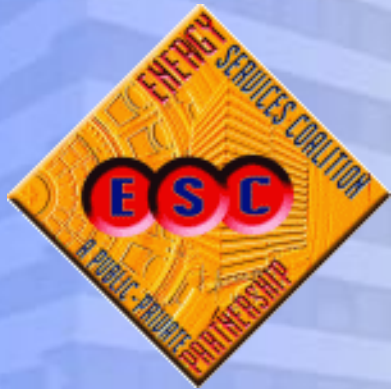
- Statewide total - \$750 million since 1996
- State government - ~\$200 million
- School districts –
 - \$137 million, 60 projects, since 2008
 - Annual savings estimate: ~\$6 million and 75 GWh
 - \$55 million, 10 project, in 2014 alone
 - Annual savings estimate: ~\$2 million and 30 GWh



How To Get Started

- 1. Decide if ESPC is a good solution for you**
- 2. Select an energy services company**
- 3. Contract with your ESCO to identify energy savings opportunities**
- 4. Negotiate a long term contract with your ESCO**
- 5. Verify savings and enjoy the benefits**

More info may be found at: www.energyservicescoalition.org/



Kentucky Members

- **AMERESCO, Inc.**
- **CMTA Consulting Engineers**
- **The CTS Group**
- **Earthwell Energy Management, Inc.**
- **Energy Systems Group**
- **Harshaw Trane**
- **Honeywell, Inc.**
- **Johnson Controls**
- **Pepco**
- **NORESCO**
- **Perfection Group, Inc.**
- **Siemens Industry, Inc.**
- **Dept. for Energy Development & Independence (DEDI)**
- **Dept. for Local Government (DLG)**



Questions/Information?

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